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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/591,565	06/09/2000	Yoichi Kato	KAM1-BL27	3371

7590

02/04/2003

Joseph W Price Esq
Snell & Wilmer LLP
1920 Main Street
Suite 1200
Irvine, CA 92614-7060

EXAMINER

VANORE, DAVID A

ART UNIT

PAPER NUMBER

2881

DATE MAILED: 02/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/591,565

Applicant(s)

KATO, YOICHI

Examiner

David A Vanore

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2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 7, 11, 15, and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims cited above contain the limitation of a discharge electrode section constituted by a needle electrode formed with an acute angle to the longitudinal axis of the needle electrode. This implies that the discharge section is a needle electrode and is formed with an acute angle relative to itself. If the applicant is trying to claim a needle electrode formed at some angle relative to the axis of its supporting member, the axis of the supporting member and the angle of orientation of the needle relative to the support should be recited. The recitation of the above cited claims is indefinite.

Claims 5-8 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims do not recite the means or method for varying the load resistance of the load resistance section. There is not sufficient description in the specification to enable this recitation. One of ordinary skill would necessarily ask, "What means are performing the function of varying the resistance"?

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Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, and 17 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Fujisawa.

Fujisawa teaches a negatively charged particle emitting apparatus comprising a DC high voltage power source (10), a discharge electrode section (14), and a load resistance section between the DC source and the discharge section to restrict the flow of electrons (20 and Col. 3 Lines 39-50) as recited in claims 1 and 17.

The high voltage wiring recited in claim 2 for connecting the power source to the discharge section is an inherent feature because in order to carry out the Fujisawa invention, one would need to use wiring capable of safely carrying a high voltage signal.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujisawa in view of Tsunoda et al.

Regarding claim 4, Fujisawa teaches all limitations as recited above including a discharge section comprising a pointed filament.

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Fujisawa fails to explicitly teach a "needle electrode" as recited in claim 4.

Tsunoda et al. teaches an electron discharge apparatus having a discharging member similar in construction to that of Fujisawa's and further comprising a sharp needle tip (1).

Tsunoda et al. modifies the discharge section of Fujisawa to include a sharp pointed needle.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a pointed tip on the filament of Fujisawa because the use of a pointed needle electrode is well known in the art to produce a more localized emission point for the discharge of electrons from an electron source and its use is taught by Tsunoda.

Claims 9-16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujisawa in view of Tsunoda et al.

Claims 9-16 and 22 recite the negatively charged particle emitting apparatus as described above by Fujisawa and Tsunoda et al. duplicated and attached to a common power source via a voltage distribution means having a resistor.

It has been held that the duplication of parts is an obvious modification unless a new and unexpected result is produced. In the instant case, no such result is produced. The claims recite a plurality of emitting devices connected to a common power source. Connecting plural devices to a common power source does not produce a novel or unexpected outcome. In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

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Regarding claims 18-21, Fujisawa and Tsunoda et al. teach all limitations as applied above, but fail to teach a twenty ohm resistor made of carbon, or the selection of an applied voltage of five thousand volts.

Fujisawa teaches the use of a resistor as shown above, and teaches a power supply capable of supplying up to 100 kV.

All materials have a resistance, but carbon is conventionally used in the art of electronics to serve as a material in a resistor. Further, the selection of the value of the resistance of the resistor described by Fujisawa or the selection of the applied voltage are required to control the emission of electrons from the tip of Fujisawa, which is taught by Fujisawa (Col. 3). Therefore, Fujisawa suggests that the resistance of resistor (20) and the applied voltage are selectable.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the applied voltage or resistance value of a resistor to control the emission of electrons in a negatively charged particle emission apparatus because the Fujisawa teaches the relationship between resistance, applied voltage, and electron emission and suggests that selecting different values will result in different electron emission characteristics.

Conclusion

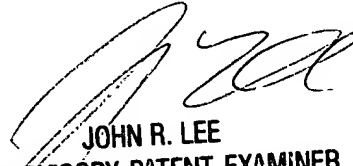
Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A Vanore whose telephone number is 703-306-0246. The examiner can normally be reached on M-F 7:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Lee can be reached on 703-308-4116. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

dav
January 13, 2003


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800